

Marian Ileana

PhD Candidate · Computer Science · POLITEHNICA Bucharest, Pitesti University Center

marianileana95@gmail.com · Pitesti, Romania · ORCID 0009-0008-9624-2202 · Web of Science JEF-6095-2023

Scholar · ResearchGate · LinkedIn · SciProfiles · DBLP · marianileana.ro

PROFILE

Doctoral researcher in computer science with 41 publications (**h-index 9**, 221 citations on Google Scholar) and author of an academic monograph. My work sits at the seam of distributed web systems and machine learning: automated test harnesses that learn what "normal" looks like, then surface the anomalies that conventional assertions can't catch. Applied domains include healthcare informatics, IoT, CRM, and education technology.

RESEARCH FOCUS

- **Distributed web systems.** microservices, container orchestration, coordination patterns
- **ML-based anomaly detection.** automated testing, system monitoring, pattern recognition
- **Applied informatics.** IoT, CRM platforms, medical informatics (HL7 FHIR), education tech
- **Formal methods.** finite state machines, timed automata, model checking

EDUCATION

Ph.D. Computer Science

2020 – in progress

POLITEHNICA Bucharest · Pitesti University Center · Interdisciplinary Doctoral School

Thesis: Distributed web systems: specification, verification and validation

M.Sc. Databases & Web Technologies

2018 – 2020

Faculty of Mathematics and Computer Science · University of Bucharest

M.Sc. Economic Informatics

2018 – 2020

Faculty of Cybernetics, Statistics and Economic Informatics · ASE Bucharest

B.Sc. Computer Science

2014 – 2017

Faculty of Mathematics and Computer Science · University of Bucharest

INTERNATIONAL RESEARCH STAYS

Visiting Doctoral Researcher · Erasmus+

May – Jun 2023

„Angel Kanchev” University of Ruse, Bulgaria · Faculty of Electrical, Electronic and Automatic Engineering. Talk: Testing Specified Program System by Finite State Machines

Visiting Doctoral Researcher · Erasmus+

Nov – Dec 2022

LORIA · Université de Lorraine / Inria, Nancy, France. Formal analysis of system specifications via FSM and timed automata

SELECTED PUBLICATIONS (10 OF 41)

- **Ileana M, Milev V, Petrov P.** Formal verification of circuit-breaker fleets under two downstream overload semantics. *Mathematical and Software Engineering*, 12(1–2), pp. 13–21, 2026.
- **Ileana M, Petrov P, Milev V.** AI-enabled secure and scalable distributed web architecture for medical informatics. *Applied Sciences*, 15(19) 10710. MDPI, 2025.
- **Ileana M, Petrov P, Milev V.** Secure integration of sensor networks and distributed web systems for electronic health records and custom CRM. *Sensors*, 25(16) 5102. MDPI, 2025.
- **Ileana M, Petrov P, Milev V.** Optimizing customer experience by exploiting real-time data generated by IoT and leveraging distributed web systems in CRM systems. *IoT*, 6(2) art. 24. MDPI, 2025. (28 citations)
- **Ileana M, Oproiu MI, Marian CV.** Using Docker Swarm to improve performance in distributed web systems. *Proc. DAS 2024*, IEEE, pp. 1–6. (23 citations)
- **Ileana M.** Optimizing performance of distributed web systems. *Informatica Economică*, 27(4), pp. 78–87, 2023. (16 citations)

- **Ileana M.** Energy efficiency optimization in distributed web systems. *Proc. ISAS 2023*, IEEE, pp. 1–5. (15 citations)
- **Popescu DA, Ileana M, Bold N.** Advanced security in distributed web systems using genetic algorithm-based techniques. *Tehnički Vjesnik*, 32(5), pp. 1932–1940, 2025.
- **Ileana M.** Elevating medical efficiency and personalized care through the integration of AI and distributed web systems. *LNCS 14799*, pp. 3–11, Springer, 2024. (12 citations)
- **Ileana M, Petrov P, Milev V.** Intelligent intrusion detection in IoT with explainable AI and distributed web systems. *Proc. Cyber-AI 2025*, IEEE, pp. 124–127. (10 citations)

Full list and citations: scholar.google.com · ORCID [0009-0008-9624-2202](https://orcid.org/0009-0008-9624-2202)

BOOKS

- **Ileana M.** *Arhitecturi Web Distribuite: Fundamente, Securitate și Tehnologii Emergente* (Distributed Web Architectures: Foundations, Security and Emerging Technologies). Editura PIM, Iași, 2026. ISBN 978-630-385-023-8.

AWARDS

Crystal Award “Best Paper” <i>CompSysTech'25 · Educational Aspects of IT Systems section. Keynote talk: Gamification of Student Assessment via RFID, Smart Simulators, and Blockchain</i>	Jun 2025
Crystal Award “Best Paper” <i>CompSysTech'24 · Network & Information Security section. Keynote talk: Blockchain for Validation and Certification of Competencies in Education</i>	Jun 2024
Crystal Award “Best Paper” <i>62nd Scientific Conference RU&SU'23 · University of Ruse. A Dynamic Load Balancing Algorithm for Distributed Web Systems</i>	Oct 2023
1st place (team) <i>UNbreakable Romania 2021 · national cybersecurity competition (Bit Sentinel, Orange, ANSSI)</i>	Jun 2021

PEER REVIEW

Certificates of Excellence in Reviewing from: *Asian Journal of Education and Social Studies* (2024, 2025) · *Asian Journal of Research in Computer Science*, SCIEENCEDOMAIN International (2025) · *Journal of Scientific Research and Reports* (2025) · Book Publisher International (2024, 2025).

TECHNICAL SKILLS

Languages. Java, Python, Kotlin, PHP, Objective-C, C/C++, SQL
Distributed systems. Docker, Docker Swarm, microservices, edge computing, load balancing
ML & data. Random Forest, SVM, anomaly detection, time-series analysis
Web & mobile. Django, Node.js, REST APIs, Android (Java/Kotlin), iOS (Objective-C)
Databases. PostgreSQL, MySQL, SQLite, NoSQL
Formal methods & tools. MATLAB, Z3, finite state machines, timed automata, model checking
Bibliometric & research tools. Web of Science, InCites, Scopus, Mendeley, LaTeX

LANGUAGES

Romanian: native · **English:** C1 (reading, listening, speaking) / B2 (writing) · **French:** A1

TEACHING, SERVICE & SELECTED EXPERIENCE

Teaching. Delivered the course *Testing Specified Program System by FSM* to Erasmus+ students from France, Georgia, Jordan, Kyrgyzstan, Romania, Turkey, Vietnam (University of Ruse, 2023). Completed Postgraduate Pedagogical Module Levels I & II (University of Pitesti, 2021–2022).

Industry. PHP Developer (Intern) at Government of Romania, MAI/DSU and Romanian Parliament, Chamber of Deputies (Apr–Sep 2022). IT Manager at IQool.ro since 2018. Earlier: Java/Android developer at Roweb, Dräxlmaier Group, Cetelem (2016–2017).

Full Europass CV (21 pages, including all publications, workshops, awards, civic engagement) available on request.